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WEINER & BURT, PC
P. O. BOX 186
HARRISVILLE, MI 48740

EXAMINER
HUYNH, KIM NGOC

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 43

Application Number: 08/422,360
Filing Date: April 17, 1995
Appellant(s): LOWENSTEIN, MICHAEL Z.

Irving M. Weiner
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/3/02.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claim 39 does not stand or fall together with claims 22, 26 and 29; and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

A substantially correct copy of appealed claim 22 appears on page 21 of the Appendix to the appellant's brief. The minor error is as follows: line 6 of claim 22, the word "or" should be "of" to be consistent with finally rejected claim 22.

(9) Prior Art of Record

3,849,677	Stacey et al.	11-1974
3,881,137	Thananwala	4-1975

BACKGROUND

The examiner submits herein a logical sequence of events which are pertinent to the prosecution of the application:

a) Claims 1-15, 17-21 were previously appealed to the Board of Appeals on 09/27/96 (Brief, Paper No. 13). A Decision was rendered on 7/25/00 as followed:

i. The rejection of claims 1-11, 13, 15 and 20-21 was affirmed.

ii. The rejection of claims 12, 14, 17-19 was reversed.

iii. Claim 14 was rejected on new ground by the Board of Appeal.

b) Following the decision, appellant filed a request for continuation prosecution of the application (CPA) on 10/16/00 canceling all affirmed and reversed claims (1-15 and 17-21) and adding claims 22-41. Claims 22-41 have essentially the same limitations of claims 1-15 and 17-21 which had been decided by the Board of Appeals.

c) The current status of claims 22-41 are as followed:

i. Claims 23-25, 27-28, 30-32, 36, 40, and 41 are canceled;

ii. Claims 33-35 and 37-38 are allowed. Despite a slight difference in wording, claims 33-35 and 37-38 contain the limitations of original appealed claims 12, 14, 17-19; the rejection of which was reversed by the Board of Appeals.

iii. Claims 22, 26, 29, and 39 are rejected on the ground of res judicata because despite a slight difference in wording, claims 22, 26, 29, and 39 contain the limitations of previously appealed claims 1-11 and 20-21; the rejection of which was affirmed by the Board of Appeals.

SUMMARY OF PREVIOUSLY AFFIRMED CLAIMS 1-11 AND 20-21

The examiner submits below a summary of claims 1-11 and 20-21 which were rejected, the rejection of which was affirmed by the Board of Appeal. A copy of claims 1-15 and 17-21 are attached at the end of the instant Examiner's Answer.

a) Claim 1 recites a circuit for eliminating current in a neutral wire of an AC source having a three branch parallel resonant circuit each having a passive component connected in series with a non linear load.

b) Claim 7 recites the same limitation of claim 1 with the emphasis that the device consisting of three branches connected in parallel.

c) Claims 2 and 8 recite the device is tuned to the third harmonic.

d) Claims 3-4 and 9-10 all recite each of the branch having a resistor, reactor, and capacitor respectively.

e) Claims 5 and 6 recite the feature of each phase of the three phase line having a three branch parallel resonant circuit and non linear load; claim 5 further recites the resonant circuit is tuned to the identical harmonic frequency of the AC source where as claim 6 recites the third harmonic.

f) Claim 11 recites features similar to the resonant circuit of claim 1, including a resonant circuit tuned to the third harmonic, a housing member for the resonant circuit, and a means for connecting the nonlinear load to the resonant circuit.

g) Claims 20 and 22 recite similar features as those in claim 5 and 6 respectively but only recite two of the three phase lines.

IDENTIFICATION OF EQUIVALENCE BETWEEN CURRENTLY APPEALED CLAIMS AND CLAIMS, THE REJECTION OF WHICH WAS PREVIOUSLY AFFIRMED

The examiner submits below a comparison between the limitations of claims 22 ,26, 29, and 39 and claims 1-11 and 20-21. The examiner will indicate the previously affirmed claim in bold to distinguish from currently appealed claims 22, 26, 29, and 39 in this comparison:

a) Claim 22 recites a device for eliminating current in a neutral wire having a completely passive parallel resonant circuit having three parallel branches, the circuit is tuned to third harmonic; the first, second, and third branch consist of a capacitor, a reactor, and a resistor respectiveiy.

The limitations of claim 22 can be found in claims the combination of claims **1, 2,** and **4**; please note the restricting language that the device "consisting" of three parallel branch, each branch having a passive component can be found in claim **7**.

b) Claim 26 recites the device of claim 22 is applied to each of phase line of a multiple phase electrical system, and the circuit is connected in series with the load.

The feature of a three phase system wherein each phase line contains a three branch parallel resonant circuit in series with a nonlinear load can be found in claims **5** or **6**. Claims **20** and **21** recite two of the three phase lines.

c) Claim 29 differs from the device of claim 22 due to the feature that the resonant circuit is connected in series with the nonlinear load.

Claim 22 can be found in claims **1, 2, 4,** and **7** as discussed above; the series connected feature can also be found in claims **1** and **7**.

d) Claim 39 recites a device for eliminating current in a neutral wire having a completely passive parallel resonant circuit having three parallel branches, the resonant circuit is connected in series with a nonlinear load and tuned to third harmonic, a housing member for the resonant circuit, and a means for connecting the nonlinear load to the resonant circuit.

The limitations of claims 39 can be found in claim **11**.

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

RES JUDICATA REJECTION

Claims 22, 26, 29, and 39, despite a slight different in wording, essentially repeat the limitations as recited in previously appealed claims 1-11 and 20-21, the rejection of which has been affirmed by the Board of Appeals, Appeal No. 1997-1187, decision rendered 7/25/00 (Paper No. 23); therefore claims 22, 26, 29 and 39 are rejected accordingly. Please refer to pages 3-10 of the Decision for further detail.

The examiner submits below the rejection of claims 1-11 and 20-21 in its entirety as applied to currently appealed claims 22, 26, 29, and 39. This rejection is extracted from the Examiner's Answer (Paper No. 14) submitted by examiner Sally Medley to the Board of Appeal; examiner Medley was the examiner of record at that time.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-11 and 20-21 (now 22, 26, 29, and 39) *are rejected under 35 U. S. C. 103 (a) as being unpatentable over the acknowledged prior art (page 1, lines 1 et seq.) in view of Stacey et al. and Thanawala. The acknowledged prior art, beginning on page 1, lines 1 et seq., discloses that there are known inventions that improve the power factor of power systems and suppress harmonic currents, specifically for nonlinear loads which include passive components for filtering. The prior art makes reference to the types of nonlinear loads (page 1 lines 17, et seq.) which cause adverse effects, such as single phase switching power supplies. The acknowledged prior art further recognizes that filtering of harmonics is known in three phase systems (Takeda et al. reference, disclosed on page 2, line 18 of the instant specification). The acknowledged prior art does not disclose a series connected RCL filter for suppressing harmonic currents.*

Stacey et al. shows in figure 5 a series connected filter between the source and load which includes passive components (60 and 62), where the filter may be tuned to the third harmonic. Stacey et al. however, does not show a passive resistor in parallel with 60 and 62, but rather an active resistor. Thanawala shows in figures 13 a passive resistor in parallel with a capacitor Cp and reactor Lp used for damping harmonic currents (see abstract for example). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the prior art with Stacey et al., since Stacey et al. teaches a series connected filter for suppressing harmonic currents, where the series suppressor may be tuned to the third harmonic.

It would have further been obvious to one of ordinary skill in the art at the time of the invention to modify the prior art and Stacey et al. with the passive resistor in parallel with a passive capacitor and reactor as taught by Thanawala, since doing so would provide a third order harmonic filter in a simpler arrangement.

(11) Response to Arguments

Issue No. 1

The appellant rehashes arguments which had been presented and decided by the Board of Appeal in Decision rendered 7/25/00. Because the arguments contained in the current Brief had been considered and addressed in both Examiner's Answer (Paper No. 14) and Board's Decision (Paper No. 23), the examiner will respond to the appellant's arguments by reinstating the discussions found in both of these papers. Appellant also makes comments such as "the final rejection, for the first time, asserts... "; it is unclear if the appellant implies that final rejection was issued prematurely. The appellant is again reminded that the issue of premature final is a petitionable subject matter under 37 CFR 1.181 and not appealable subject matter (See MPEP § 1002 and § 1201). However, to clarify this issue, the examiner notes the following:

In response to the argument that the examiner indicated in the Office Action of 4/30/01, that applicant's admitted prior art (APA) was "the entire patent application, namely page 1, lines 1 et seq. In contrast with the final rejection, for the first time, asserts that the applicant's admitted prior art is only page 1, lines 11-18." The examiner

would like to respond as follows: prior to the final rejection, the appellant questioned the which part of the APA the examiner relied upon in the rejection of the claims; in the final rejection, the examiner responded to this question by re-identifying the passage which the Board of Appeals cited in affirming the rejection of claims 1-10 and 20-21 over the APA in view of Stacey and Thanawala . The issue regarding the content of APA is not a new, and the examiner trusts that the appellant is familiar with the discussion below by the Board of Appeals in the Decision rendered 7/25/00:

Appellant argues on pages 9 and 10 of the Brief that no reference cited by the examiner discloses or suggests the claimed subject matter, which is not responsive to the rejection of record. Appellant does, however, take issue with the alleged content of the APA. Appellant disagrees with the examiner's contention, as set out on page 6 of the Answer, that appellant's reference to U.S. Patent 4,812,669 in the specification means that the APA includes filters in three phase systems as disclosed by the patent. However, it is unnecessary to determine the extent to which the content of the referenced patent may represent admitted prior art to appellant. The last paragraph of page 1 of appellant's specification clearly indicates that harmonic currents in three phase systems were additive in the neutral line, and were detrimental to the systems. Appellant also admits on page 1 that a single frequency of harmonic current (i.e., the third harmonic) may approach the fundamental frequency current in systems having single phase nonlinear loads. We find, upon consideration of the evidence as a whole, that the artisan would have recognized, as a suggested solution to the stated problems, three identical filters having three passive elements in the configuration of Figure 5 of Stacy -- one filter for each phase of a three phase system. We conclude that the claimed subject matter would have been obvious.

The appellant argues that there is no motivation and reasons for combining the references of Stacey and Thanawala and asserts that the combination of Stacey and Thanawala teaches away from the claimed invention. The appellant also argues that the rejection fails to consider the claims in their entireties, namely the resonant circuit is completely passive with three parallel branches connected in series with a nonlinear load. The examiner believes that the response stated by examiner Medley in her Examiner's Answer (page 7, line 4 through page 8, line 10 of Paper No. 14) submitted to the Board of Appeal fully addresses these arguments by the appellant. The response is as follows:

Appellant argues that the Stacey hybrid filter discloses an active device which generates a ripple current ... under all conditions of input frequency and passive component variations and that altering the active components with a passive resistor would destroy the Stacey device. Column 7, lines 5-10 states that the active element will not come into play, provided that the hybrid filter is tuned to the ripple frequency. That is, if the hybrid filter is tuned to precisely the third harmonic frequency, the active elements will not create a ripple current as suggested by Appellant. Therefore, adding a resistor to properly tune the filter to a third order harmonic would likewise not destroy the Stacey et al. device, since if the filter is properly tuned, the active shunt will not generate a ripple current, and therefore is not needed.

Appellant argues that there is no suggestion for modifying the Stacey filter (active components) with the Thanawala passive resistor. One would have been motivated at

the time the invention was made to modify the Stacey filter with the passive Thanawala resistor, since doing so would properly tune the filter for third order harmonic filtering, thereby obviating the need for generating a ripple current (no need for the extra active components). Appellant argues that there is no suggestion to replace the active components with a passive resistor, thereby forming a passive filter. Stacey et al. acknowledges in the background section of the specification, that passive filtering is known (see column 1, lines 13-30). The problem that the Stacey et al. device attempts to solve is tuning a single filter for any situation, that is the device is a "hybrid" filter. Certainly in Appellant's case where third harmonic filtering is desired, there would be no need for the active component, which could be replaced by passive components only, as even recognized by Stacey et al.

However, it is the examiner's position as stated above that if the filter is properly tuned to the third harmonic there is no need for the active Stacey et al. components, as even suggested by the background section of the Stacey et al. reference. That is, a filter tuned to the third harmonic may consist of only passive elements.

Appellant argues that the language "consisting of in claim 7 is closed in that only those elements recited and no more are what's being claimed. The examiner agrees that "consisting of is closed language. However, it is the examiner's position as stated above that if the filter is properly tuned to the third harmonic there is no need for the active Stacey et al. components, as even suggested by the background section of the Stacey et al. reference. That is, a filter tuned to the third harmonic may consist of only passive elements.

As for the argument that the that the examiner's conclusion of obviousness is based upon improper hindsight reasoning for combining the references, please note that it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

The appellant states that the final rejection for the first time states that Stacey "explicitly discloses that the active element is unnecessary when there is but one harmonic frequency". Please note that this statement is part of the disclosure by the Stacey reference and the excerpt is a direct quote from the Board's decision (page 5, lines 3+). These issues have been of record and were pointed out to the appellant in the final rejection in response to the appellant's argument. The Examiner trusts that the Appellant is familiar with the Board's decision of 7/25/00 and this should not the first time the Appellant was informed of the passage of page 1, lines 11-18 or the statement that Stacey explicitly discloses that the active element is unnecessary.

In support of the rejection combining APA in view of Stacey and Thanawala; the Board of Appeals states

A suggestion to combine references may come expressly from the references themselves. A suggestion may also come from the nature of a problem to be solved, leading inventors to look to references relating to possible solutions to that problem. Pro-Mold and Tool Co. v. Great

Lakes Plastics Inc., 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996). In the instant case, the problem to be solved was the detrimental effect of third order harmonic currents created in electrical power systems having single phase nonlinear loads.

> In electrical power systems, harmonic currents are often created due to the presence of nonlinear loads located therein. In some instances, significant levels of third order harmonic currents are created in electrical power systems having single phase nonlinear loads, which may often approach the level of the fundamental frequency current. Such third order harmonic currents adversely effect [sic] the performance of power systems by causing the peak voltage of the power lines to flatten, thus disrupting the operation of nonlinear loads, such as single-phase switching power supplies, and corresponding devices connected thereto.
>
> (Specification, page 1, lines 11-18.)

We would agree with appellant that the references of Stacey and Thanawala, standing alone, would not have suggested appellant's invention to the artisan. However, in view of the problem that appellant set out to solve, we find that the artisan, when seeking solutions, would reasonably have turned to references dealing with problems related to harmonic currents. The artisan would have found the Stacey reference to be of particular pertinence to the problem at hand. Stacey discloses, in Figure 5, a filter connected in series between a power source and a load, forming an infinite impedance to the flow of harmonic currents. The filter consists of a capacitor 60, an inductor 62, and an active element 28' which generates a "fictitious ripple" current at harmonic frequencies to counteract the harmonics in the circuit. See Stacey, column 6, line 56 through column 7, line 10. "[I]f the elements 60 and 62 are exactly tuned to the ripple frequency, and assuming that only one ripple frequency [exists], then if the internal resistance of the passive elements is zero, the active element 28' will not come into play ...." Id.

Thus, the reference explicitly discloses that an active element is unnecessary when there is but one harmonic frequency of interest. The examiner finds that replacement of the active element with a resistor would have been indicated for precise tuning of the filter for a single harmonic frequency.

As for the argument attacking the Board of Appeals reasons for affirming the combination of APA in view of Stacey and Thanawala by arguing that 1) Stacey clearly teaches away from the use of using only passive elements, 2) the statement that an active element is not necessary when there is but one harmonic frequency is false and not scientifically correct, 3) the substitution of a passive element (namely a resistor) taught by Thanawala with the active element of Stacey is incorrect; please note the Board of Appeals states:

... the examiner's rationale does not propose modifying the circuitry of Stacey, in view of the teachings of Thanawala, beyond the replacement of active element 28' with a resistor. Moreover, in addition to the specific applications shown in Figs. 9, 11, 13, and 15 of Thanawala, the reference suggests resistance for damping of harmonic frequencies. See, e.g., Thanawala, column 1, lines 15 through 35.

We agree with appellant that Stacey teaches that active filtering is desirable. But that teaching is directed to the problem that the reference was solving -- namely, the problem of detrimental effects of multiple harmonic frequencies. "`The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain.'" In re Heck, 699 F.2d 1331, 1333, 216 USPQ 1038, 1039 (Fed. Cir. 1983), quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968). In view of Figure 5 of Stacey and the above-noted portion of the written description of the reference, in addition to the disclosure in column 1 that harmonic filtering traditionally consisted of passive components, the artisan -when faced with the problem of attenuating a single harmonic frequency -- would have found Stacey to be suggestive of using only passive components.

We are also aware, as pointed out on page 12 of the Brief, that Stacey discloses refinements to overcome variations in passive component values or source frequency. However, in much the same way as the specific teachings regarding overcoming the effects of multiple

harmonic frequencies would have been viewed by the artisan as having marginal relevance to the problem at hand, the teaching is also of little relevance to the problem that was facing appellant.

The Board of Appeals also stated that

... we note that the suggested replacement of active element 28' with a resistor in Figure 5 of Stacey meets the limitations of Claim 7. The filter would consist of three passive electrical components having the claimed configuration. We also note that the allegation that "[n]o reference disclosed by the Examiner" teaches or suggests the claimed device is not responsive to the rejection of record, which includes appellant's APA.

....Since third order harmonic were detrimental are also aware, as pointed out on page 12 of the Brief, that Stacey discloses refinements to overcome variations in passive component values or source frequency. However, in much the same way as the specific teachings

As for the argument that Stacey discloses a linear load and not one or more non linear load, the Board of Appeal states (page 9, last paragraph) that:

"... appellant refers to the Stacey reference as disclosing a linear load. It is true that at column 3, line 37, load 18 is referred to as "linear." However, in view of the remainder of the reference, the use of the word may be a mere informality.' The apparatus of Stacey was invented to overcome the effects of nonlinear loads. See Stacey, column 1, first paragraph. In any event, both appellant's APA and the Stacey reference serve as evidence that harmonic currents were known to be a problem in circuits with nonlinear loads.

Furthermore, in arguing against the reasons in which the Board of Appeals articulated in support of their Decision rendered 7/25/00, the appellant essentially requests the examiner to review and reverse the Board's Decision. The appellant is reminded that in the Notice of Non-Compliance (Paper No. 41), the examiner had informed the appellant that the examiner has no authority to reverse or review the

validity the Board's decision. The examiner had further advised the appellant to refer MPEP 1214.03 should appellant wish to appeal the Board's decision. Indeed, these arguments are neither necessary nor appropriate.

Issue No. 2:

As for the argument that the res judicata rejection is not proper. Please note in every office action regarding the rejection of claims 22, 26, 29, and 39; the examiner consistently referred to and relied upon the Board's decision. These were res judicata rejections. The appellant ignores such fact and attacks the form of the rejection instead of the merits. The examiner respectfully submits that the rejection on the ground of res judicata had been raised since the first Office Action, and never had been waived, as is asserted by the appellant.

As for the argument that claims 22, 26, 29, and 39 are not the same as the limitations in claims 1-10 and 21-21. In response, the examiner would like to point out again that claims 22, 26, 29, and 39, despite a slight difference in wording, essentially repeat the limitations as recited in previously appealed claims 1-11 and 20-21, the rejection of which has been affirmed by the Board of Appeals, Appeal No. 1997-1187, decision rendered 7/25/00 (Paper No. 23). Please also refer to the above discussion on pages 5-6 labeled *IDENTIFICATION OF EQUIVALENCE BETWEEN CURRENTLY APPEALED CLAIMS AND CLAIMS, THE REJECTION OF WHICH WAS PREVIOUSLY AFFIRMED* for a detail analysis of the claims equivalence.

Issue No. 3:

The arguments presented on pages 2-4 of the Remarks of the Amendment filed 8/24/01 (Paper No. 32) and reiterated as Issues 1 and 4-10 in the Brief, are summarized as follows:

a) Argument that the prima facie case of obviousness of the rejection has not been established;

b) Argument that the combination of the references in the rejection is not supported by the references;

c) Argument that the limitations of claims 22, 26, 29, and 39 are not covered by the limitations of claims 1-10 and 20-21, the rejection of which is affirmed by the Board of Appeal;

d) A submission of the corroborative declarations by Kraus and Pirrone in support of the commercial success of the declaration by the inventor, Lowenstein.

Arguments a-b are reiterated in Issue No. 1 of this Brief; the response to these arguments is as stated in the corresponding Issue No. 1 of the instant Examiner's Answer.

Response to argument c is found in the *IDENTIFICATION OF EQUIVALENCE BETWEEN CURRENTLY APPEALED CLAIMS AND CLAIMS, THE REJECTION OF WHICH WAS PREVIOUSLY AFFIRMED.* The appellant seems to rely on the term "completely passive" to differentiate between claims 22, 26, 29 and 39 from claims 1-10 and 20-21. Please note the rejection of claims 1-10 and 20-21 and the Board's opinion

fully address the situation of a resonant circuit having three parallel branches wherein each branch has only a passive component, namely a resistor, capacitor and reactor as discussed in the response at Issue No. 1 of the instant Examiner's Answer.

The examiner's position regarding the argument of item c, the declaration of commercial success, is discussed in more details in the following responses which corresponds to Issues No. 4-10 of appellant.

Issues No. 4-10:

As for the argument that the final only refers to a single declaration, please note by the appellant's own words, the declarations filed by Kraus and Pirrone are corroborative declarations to supporting the commercial success declaration of Lowenstein (Paper No. 32, page 4). Since the declarations of Lowenstein, Kraus, and Pirrone are directed to the commercial success of the product and since the Kraus and Pirrone are corroborative declarations and the Kraus and Pirrone declarations are corroborative of the Lowenstein declaration, the examiner considered them as a single declaration in the final rejection.

The appellant, in Paper No. 40, for the first time brought up the question regarding which declarations was referred to in the final rejection; in response, the examiner clarified in Paper No. 41 that the arguments in the final rejection were applied to all three declarations (Paper No. 41). In the Brief, the appellant ignores examiner's clarification, and instead goes through great length to attack the vocabulary used by the examiner.

As for the declarations of Lowenstein, Kraus, and Pirrone are not germane to the rejection at issue. Please note that the Loweinstein provides the monetary figures to represent the sale trends of Harmonics Limited products embodying the INVENTION starting in 1993, the Kraus declaration discloses the dollar figures of the sale of harmonic suppression system utilizing the INVENTION starting in 1996, and the Pirrone declaration provides the dollar value purchase of harmonic suppression system containing the INVENTION starting in 2000.

The examiner submits that the figures shown in all three declarations indicate the sale value of the INVENTION (claims 22, 26, 29 and 39) as an integral part of the other products and not the INVENTION itself. The declarations fail to provide proof that the success of the products are not due to combination of claims 22, 26, 29 and 39 with other features of the products such as the equipment rack panel member which is perforated to allow air flow or the current limiting device and the automatically deactivating switch (as disclosed in allowed claims 33-35 and 37-38).

Furthermore, these declarations fail provide evidence to support the fact that the increase in sales is not due to the economic growth in the last 10 years or increase in the price of the products. The declarations also fail to provide data to identify a baseline of sales of the company's products prior to the introduction of the INVENTION for a comparative measurement of commercial success.

The appellant makes a general statement that the three declarations "deal with all of the matters mentioned in item 4(b)(iii) of the final rejection (instant Appeal Brief,

Paper No. 42, page 16, lines 15-16); namely the Lowenstein, Kraus, and Pirrone declarations deal with discussing the issue of solving a problem that was long standing in the art and showing that persons skilled in the art who were presumably working on the problem knew of the teachings of the above cited references and still were unable to solve the problem. However, the appellant fail to provide any supporting arguments or pointing out how the Lowenstein, Kraus, and Pirrone support such statement.

As for the Dedad declaration which indicated that there is no prior techniques or devices in the art to filter/remove harmonic currents except for coping with it. The Examiner respectfully disagrees with this statement because techniques for removing harmonic currents are well known in the art as disclosed by the Appellant in the Description of Relevant Arts in page 2 of the specification and also by the references of records including Stacey and Thanawala. The Dedad declaration also indicates that the advantage of the INVENTION (claims 22, 26, 29 and 39) is to eliminate the need to replace existing branch circuit wiring or increase neutral conductors, and redistribute existing loads on existing delta-wye transformer. The examiner believes this point is not germane to the rejection at issue since the advantage indicated is due to a combination of features in the device, some of which are not claimed, namely the combination of claims 22, 26, 29 and 39 with the other features of the products such as the equipment rack panel member which is perforated to allow air flow, the current limiting device and the automatically deactivating switch.

GROUPING OF CLAIMS

In response to the argument regarding the housing member and means for connecting recited in claim 39, please note that these feature have are addressed in the affirmed rejection of claim 11.

IN CONCLUSION:

a) All the limitations recited in the currently appealed claims 22, 26, 29, and 39 are covered in the previously rejected claims 1-11 and 20-21.

b) The examiner's position regarding the motivation and combining of the Stacey and Thanawala have been affirmed.

c) The rejection of claims 1-11 and 20-21, now applied to claims 22, 26, 29, and 39, was sustained by the Board.

d) The declarations do not establish persuasive evidence to overcome the non-obviousness based upon second considerations.

For the above reasons, it is believed that the rejection should be sustained.

Respectfully submitted,

Kim Huynh

KH
November 18, 2002

Conferees
Kim Huynh
Brian Sircus
Olik Chaudhuri

BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

WEINER & BURT, PC
P. O. BOX 186
HARRISVILLE, MI 48740

APPENDIX OF CLAIMS

1. In a multiple phase electrical system for supplying power from an AC source to a plurality of nonlinear loads connected to at least one phase line therein, a device for substantially eliminating currents in the neutral wire, said device comprising:

a first electrical circuit comprising

a first passive electrical component connected along a phase line in said electrical system in series with at least one of said nonlinear loads,

a second passive electrical component connected in parallel to said first passive electrical component,

a third passive electrical component connected in parallel to said first and said second passive electrical components; and

wherein said first, said second, and said third passive electrical components of said first circuit are tuned to a harmonic frequency of a fundamental frequency of the AC source so as to substantially eliminate a harmonic current drawn by said at least one nonlinear load connected in series with said parallel connection of said first, said second, and said third passive electrical components.

2. A device as recited in claim 1, wherein:

said first, said second, and said third passive electrical components of said first electrical circuit are tuned to a third harmonic frequency of the AC source.

3. A device as recited in claim 1, wherein:

said first passive electrical component of said first electrical circuit comprises a capacitor;

said second passive electrical component of said first electrical circuit comprises a reactor; and

said third passive electrical component of said first electrical circuit comprises a resistor.

4. A device as recited in claim 2, wherein:

said first passive electrical component of said first electrical circuit comprises a capacitor;

said second passive electrical component of said first electrical circuit comprises a reactor; and

said third passive electrical component of said first electrical circuit comprises a resistor.

5. A neutral current eliminating device as recited in claim 1, wherein:

each phase line in the electrical system supplies power to at least one nonlinear load;

said device includes a second and third electrical circuit, each of said first, said second and said third electrical circuits being connected along a separate phase line in said electrical system in series with at least one nonlinear load whose power is supplied by said separate phase line, said first, said second and said third electrical circuits substantially eliminate a harmonic current in each of said separate phase lines drawn by said nonlinear loads;

said second electrical circuit comprises a fourth passive electrical component, a fifth passive electrical component connected in parallel to said fourth passive electrical component, and a sixth passive electrical component connected in parallel to said fourth and said fifth passive electrical components;

said third electrical circuit comprises a seventh passive electrical component, an eighth passive electrical component connected in parallel to said seventh passive electrical component, and a ninth passive electrical component connected in parallel to said eighth and said seventh passive electrical components; and

wherein each of said first, said second and said third electrical circuits is tuned to an identical harmonic frequency of the AC source.

6. A neutral current eliminating device as recited in claim 2, wherein:

each phase line in the electrical system supplies power to at least one nonlinear load;

said device includes a second and third electrical circuit, each of said first, said second and said third electrical circuits being connected along a separate phase line in said electrical system in series with at least one nonlinear load whose power is supplied by said separate phase line, said first, said second and said third electrical circuits substantially eliminate a harmonic current in each of said separate phase lines drawn by said nonlinear loads;

said second electrical circuit comprises a fourth passive electrical component, a fifth passive electrical component connected in parallel to said fourth passive electrical component, and a sixth passive electrical component connected in parallel to said fourth and said fifth passive electrical components;

said third electrical circuit comprises a seventh passive electrical component, an eighth passive electrical component connected in parallel to said seventh passive electrical component, and a ninth passive electrical component connected in parallel to said eighth and said seventh passive electrical components; and

wherein each of said first, said second and said third electrical circuits is tuned to a third harmonic of the AC source.

7. A device for substantially eliminating a harmonic current generated by a nonlinear load in an electrical distribution system, the distribution system distributing power from an AC source, said device consisting of:

a first passive electrical component connected in series with the nonlinear load;

a second passive electrical component connected in parallel to said first passive electrical component;

a third passive electrical component connected in parallel to said first and said second passive electrical components; and

wherein said first, said second, and said third passive electrical components are tuned to a harmonic frequency of the AC source so as to change the current drawn by the nonlinear load.

8. A device as recited in claim 7, wherein:

said device is tuned to a third harmonic frequency of the AC source.

9. A device as recited in claim 7, wherein:

said first passive electrical component is a resistor;

said second passive electrical component is a reactor; and

said third passive electrical component is a capacitor.

10. A device as recited in claim 8, wherein:

said first passive electrical component is a resistor;

said second passive electrical component is a reactor; and

said third passive electrical component is a capacitor.

11. A device for reducing currents in an electrical system which supplies power to a nonlinear load from an AC source, comprising:

a first passive electrical component connected in series with the nonlinear load;

a second passive electrical component connected in parallel to said first passive electrical component;

a third passive electrical component connected in parallel to said first and said second passive electrical component;

a housing member for said first, said second, and said third passive electrical components;

means for connecting the nonlinear load to said parallel connection of said first, said second and said third passive electrical components; and

wherein said first, said second, and said third passive electrical components are tuned to a third harmonic frequency of the AC source so as to substantially alter current drawn by the nonlinear load.

12. A device as recited in claim 11, wherein:

said connecting means includes an equipment rack panel member connected to said housing so as to mount said housing in an equipment rack storing the nonlinear load; and

wherein said equipment rack panel member is substantially perforated so as to allow airflow to pass therethrough.

13. A device as recited in claim 11, wherein:

said connecting means includes at least one electrical socket for connecting to the nonlinear load, said socket being disposed along a first surface of said housing member, and at least one bracket member for mounting said device along a substantially planar surface so that said socket and said first surface of said housing member are substantially aligned with said planar surface, said device substantially replacing a conventional wall outlet.

14. A device as recited in claim 11, wherein:

the nonlinear load comprises a computer having a monitor connected thereto; and

said device further includes at least one monitor saver board, said monitor saver board deactivates said monitor during periods of nonuse, and a housing member having electrical connectors for connection to said monitor and to said computer.

15. A device as recited in claim 11, further including:

an isolation transformer connected between said AC source and said parallel connection of said first, said second, and said third passive electrical components;

wherein said connecting means includes electrical sockets extending therefrom for providing connection to the nonlinear load, and at least one bracket member for attaching said housing member to a utility cart.

17. A device as recited in claim 11, including:

means, connected in series with said parallel connection of said first, said second, and said third passive electrical components, for controlling current levels drawn by the nonlinear load, comprising a current limiting circuit, a circuit for detecting a rapid rise in current drawn by the nonlinear load and a switch for automatically deactivating said clamping circuit based upon signal levels detected by said current detecting circuit.

18. A device as recited in claim 17, wherein:

said first, said second, and said third electrical components are tuned to a third harmonic frequency of the AC source.

19. A device as recited in claim 18, wherein:

said current level limiting circuit maintains a maximum current level drawn by the nonlinear load to between approximately 6 and 8 amps.